MIXING DIRECTIONS
for combining
Dutch Boy White Lead

With Pure Linseed oil and Colors to obtain any desired shade used in House Painting and Decorating

National Lead Company

New York Boston Buffalo Chicago Cincinnati
Cleveland St Louis San Francisco

John T. Lewis & Bros. Co. (Philadelphia) (National Lead & Oil Co. Pittsburgh)

Digitized by the Internet Archive
in 2017 with funding from
Columbia University Libraries

https://archive.org/details/mixingdirections00nati

THE COLOR BLOCKS

It will be seen that all the color blocks are in groups. Each group is a perfect harmony. In any group on pages 4, 5 and 6, any one of the colors may be taken for the body of the house and any other one for the trim. In most of the groups the darkest of the three shades is suitable for sash or roof, and in some cases for blinds.

Similarly, in the groups on pages 7 and 8, each two colors are in perfect harmony. With the lighter tint for a ceiling and the deeper tint for a side wall, there will be no clashing of colors whatever.

With the 70 different colors shown on this folder there could, of course, be made thousands of good combinations. No one who selects colors from this folder need feel limited by the 21 combinations shown. The two advantages of the groupings are (1) to show how the different colors go together, and (2) to show certain combinations that are unmistakably correct.

Don't forget the white house. Where the atmosphere is reasonably free from dust and from the smoke of railroads or factories, nothing else is quite so attractive as white. It is particularly pleasing on a house well set in foliage, and it gives even to a small house an appearance of increased size. White is also effective as a trim on yellow, drab or gray.

WHAT PAINT?

The best known paint prescription is an old one—simply pure white lead mixed with pure linseed oil and the necessary color. Nothing else has yet been found to equal it. Pure white lead and linseed oil paint wears down slowly and smoothly, so that, when the time comes to paint again, no expensive preparation is necessary.

It is one of the greatest objections to the substitutes offered for pure white lead paint that they leave the surface so rough and lumpy that it not only looks bad, but requires the use of the gasoline torch to smooth it down before repainting. This preparatory work not only is dangerous, but it costs time and money which, of course, must be added to the original cost of those substitutes before their cost is compared with that of pure white lead and oil.

Mixing—Faulty mixing, even with the best

of materials, is not likely to make durable paint. The important thing is to give the lead and oil a chance to incorporate themselves in that close union which they always make if let alone, and which is the secret of the superiority of white lead and linseed oil paint over all others. The following directions give best results. The order is important.

(1) Break up the white lead with the paddle, using only enough oil to bring it to the consistency of colors in oil.
(2) Add your tinting colors (read carefully instructions under heading "Making the Tints"). Coloring matter added after the paint has been thinned is likely to break up in lumps which leave streaks when brushed out.
(3) Put in drier (see "Specifications," p. 11, for quantity).
(4) Add remainder of oil, stirring well (see "Specifications," p. 11, for quantity of oil).
(5) Last of all, put in turpentine. For outside work never use more than one part turpentine to five parts oil.

Remember that thinners help only the flow of the paint; never its quality. Always put in the thinner last.

Making the Tints—The formulas for making these tints are practical, but a few cautions are important.

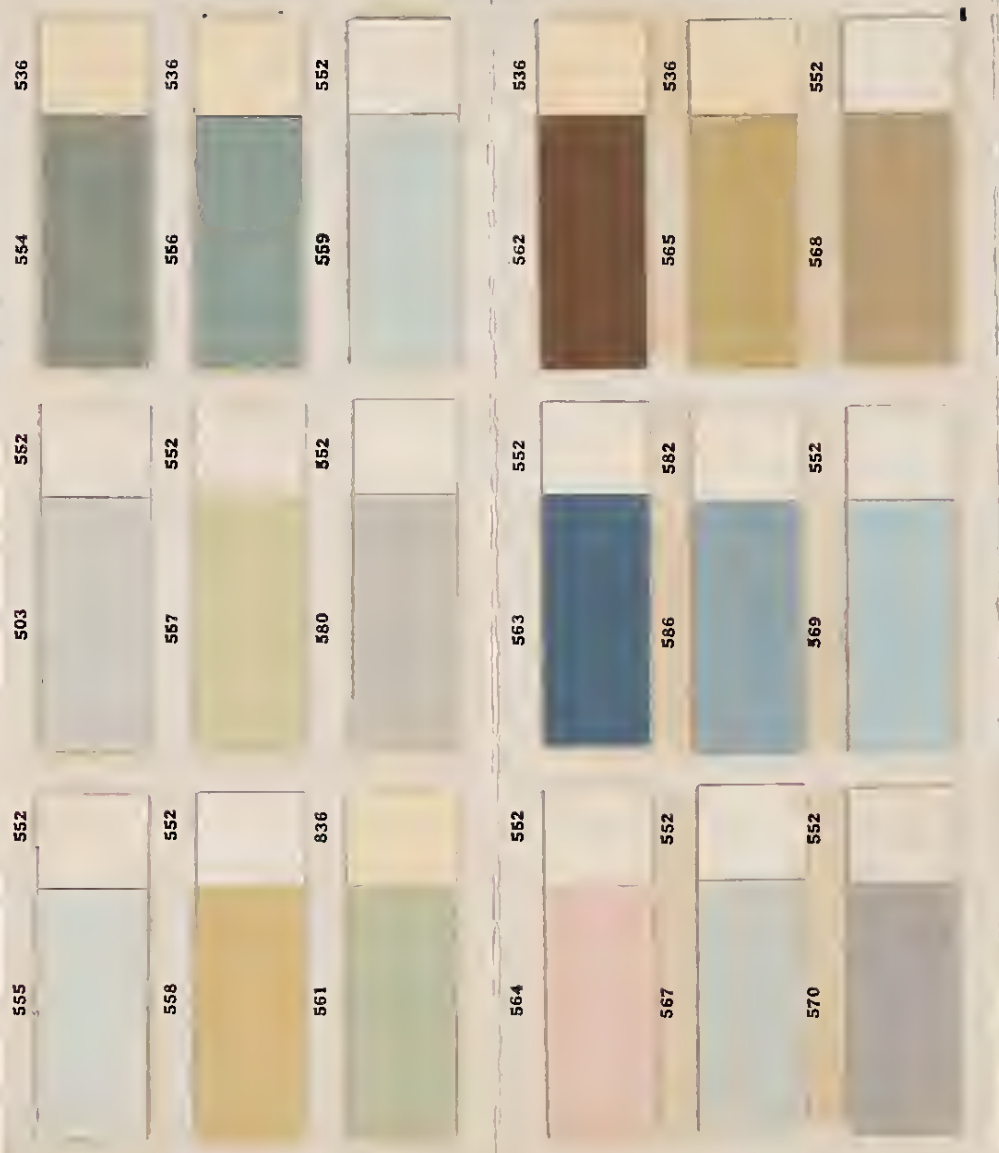
(1) Make some allowance for slight variations in the strength and tone of different makes of colors. Chromes and ochres vary noticeably. These formulas are based on John T. Lewis & Bros. Co.'s colors in oil, a recognized high standard brand. If it is not possible to obtain them, use the highest grade you can obtain of some other make and familiarize yourself with their strength and tone. Cheap colors are never satisfactory.
(2) Weigh out your color and add it gradually, not all at once, noting the effect as you go. When you reach the desired shade, stop, regardless of what the formula calls for.
(3) Turpentine and dark driers will slightly alter shades. Make allowance for this.

For New Work Outside—Priming Coat—Knots and sappy streaks should be shellacked with grain alcohol shellac, brushed out very thin. Then prime with the following: 100 lbs. pure white lead; 6 to 7 gallons pure raw linseed oil; 1 gallon pure turpentine; 1½ pints pure turpentine drier. This makes 10 to 11 gallons of paint. Where the lumber has many

(Continued on page 8)

Twenty-one Good Combinations For Exterior House Painting.

Eighteen Combinations For Interiors.



knots, use less oil and more turpentine; too much oil on the knots causes the later coats to draw and check.

Second Coat—100 lbs. pure white lead; 3½ to 4½ gallons pure raw linseed oil; ¼ gallon pure turpentine; 1 pint pure turpentine drier. This makes 6½ to 7½ gallons of paint.

Third Coat—100 lbs. pure white lead; 3½ to 4½ gallons pure raw linseed oil; 1 pint pure turpentine; 1 pint pure turpentine drier.

For Old Work Outside—First Coat—100 lbs. pure white lead; 4 to 5 gallons pure raw linseed oil; 1 gallon pure turpentine; 1 pint pure turpentine drier.

Second Coat—100 lbs. pure white lead; 3½ to 4½ gallons pure raw linseed oil; 1 pint pure turpentine; 1 pint pure turpentine drier.

In winter and damp weather from ¼ pint to ½ pint additional japan drier should be used.

When tinting colors are used sufficient to alter the consistency of the paint, add enough oil and turpentine to equal one-half the weight of the tinting material.

Three coats should always be applied to a surface which has never before been painted. Two coats are sufficient for repainting old work. Two coats only are sometimes used on new work, for the sake of economy, but it is not true economy. A third coat would cost only one-third more and should make the job last twice as long.

Lead and Oil—In these formulas it is assumed that only pure white lead and pure linseed oil will be used. One way to insure purity is to get both lead and oil in our sealed packages, bearing the "Dutch Boy Painter" trade-mark.

Thinners and Driers—Use only pure turpentine as a thinner. Do not use kerosene or even benzine; they do not improve, and they may injure the paint. A pure turpentine japan drier is recommended.

THE COLOR FORMULAS

To 100 lbs. of our Dutch Boy White Lead ground in oil add colors in oil as directed.

501—14 oz. lamp black

502— 1 oz. lamp black

503—¼ oz. lamp black.

504—22 pounds French ochre
2 pounds lamp black
1 pound Venetian red

505— 2 lbs. 4 oz. French ochre
9 oz. lamp black

506— 2 lbs. 4 oz. French ochre
5 oz. lamp black

507— 1 oz. lamp black
3 oz. Prussian blue
1 lb. 1 oz. medium chrome green

508—½ oz. lamp black
¼ oz. Prussian blue

509—¼ oz. lamp black
1/5 oz. Prussian blue

510— 4 oz. lamp black
1 lb. 2 oz. Venetian red

511— 2 oz. lamp black
6 oz. Venetian red

512—½ oz. lamp black
¾ oz. Venetian red

513— 7 oz. lamp black
11 oz. medium chrome yellow

514— 3 oz. lamp black
5 oz. medium chrome yellow

515—12 oz. French ochre
5 oz. lamp black

516—31 lbs. French ochre
4½ oz. lamp black
61 lbs. English Tuscan red

517— 2 lbs. 10 oz. Venetian red

518—14 oz. Venetian red

519—32 lbs. French ochre
1 lb. 8 oz. lamp black
2 lbs. 5 oz. Venetian red

520— 2 lbs. 3 oz. French ochre
1½ oz. lamp black

521— 1 lb. 2 oz. French ochre
½ oz. lamp black
3/10 oz. Venetian red

522— 7 oz. lamp black
54 lbs. light green
2 lbs. 4 oz. medium chrome yellow

523—3¾ oz. lamp black
1 lb. 5 oz. light green
2 lbs. 6½ oz. medium chrome yellow

524— 1 1/5 oz. lamp black
1 2/3 oz. light green
13 oz. medium chrome yellow

525— 2 lbs. lamp black
9 lbs. 2 oz. medium chrome green
4 lbs. 10 oz. medium chrome yellow

526—16 oz. lamp black
4 lbs. 10 oz. medium chrome yellow

527—½ oz. lamp black
6¾ oz. medium chrome yellow

528—6 lbs. 2 oz. French ochre
2½ oz. lamp black
13 oz. Venetian red

529— 2 lbs. 3 oz. French ochre
½ oz. lamp black
4¼ oz. Venetian red

530—10 oz. French ochre
3/10 oz. Venetian red

531— 1 lb. 6 oz. lamp black
4 lbs. 9 oz. medium chrome green
4 lbs. 10 oz. medium chrome yellow

532— 3 oz. lamp black
14 oz. lemon chrome yellow

533—¾ oz. lamp black
2½ oz. medium chrome yellow

534—5 lbs. 12 oz. French ochre
¾ oz. Venetian red

535— 2 lbs. 1 oz. French ochre

536— 7 oz. French ochre
5 oz. medium chrome yellow

537—10 lbs. 15 oz. French ochre
4½ oz. lamp black

538— 7 oz. medium chrome yellow

539— 2 lbs. 1 oz. lamp black
18 lbs. 10 oz. medium chrome green
6 lbs. 9 oz. medium chrome yellow

540— 6 oz. French ochre
¾ oz. lamp black
4½ oz. Venetian red

541—Indian red only

542—12 oz. French ochre
1 oz. lamp black

543—8 oz. French ochre
½ oz. lamp black

544— 7 lbs. 8 oz. French ochre
1 oz. lamp black

545— 1 1/5 oz. lamp black
2 oz. medium chrome green
5 oz. medium chrome yellow

546— 2/10 oz. lamp black
3/10 oz. Prussian blue
2/10 oz. lemon chrome yellow

547— 2 oz. lamp black
4 oz. Venetian red
9 oz. medium chrome yellow

548— 1 lb. 1 oz. French ochre
5 oz. lamp black
4/10 oz. Venetian red

549— 5 oz. French ochre
8 oz. medium chrome yellow

550— 2 lbs. 12 oz. French ochre
3 oz. lamp black

551— 8¼ oz. French ochre
1⅛ oz. lamp black

552— 1 oz. medium chrome yellow

553—½ oz. lamp black
4 oz. medium chrome yellow
4½ oz. lemon chrome yellow

554— 4 oz. lamp black
12½ oz. medium chrome yellow
2 lbs. 1 oz. medium chrome green

555— 1 oz. Prussian blue
½ oz. lemon chrome yellow

556— 1 oz. lamp black
2 oz. medium chrome yellow
1 oz. Prussian blue
1 lb. 1 oz. medium chrome green

557— 3/10 oz. lamp black
3 3/10 oz. medium chrome yellow
1 lb. 3/10 oz. lemon chrome yellow

558— 2 lbs. 15 oz. French ochre

559— 4/10 oz. Prussian blue

560— 4/10 oz. lamp black
2 oz. medium chrome yellow

561—½ oz. lamp black
12½ oz. medium chrome yellow
14 oz. medium chrome green

562—12 lbs. 7 3/10 oz. French ochre
1 lb. 1 oz. lamp black
2 lbs. 4 oz. Venetian red

563— 3 oz. lamp black
1 lb. 6½ oz. Prussian blue
1 lb. 2 oz. medium chrome green

564—1½ oz. medium chrome yellow
4 oz. Venetian red

565—5 lbs. 9 oz. French ochre
2/10 oz. lamp black

566— 3 oz. Prussian blue
7 oz. medium chrome green

567— 1 oz. Prussian blue
½ oz. lemon chrome yellow

568— 5 lbs. 9 oz. French ochre
1 3/10 oz. lamp black
4 2/10 oz. Venetian red

569— 1 oz. Prussian blue

570— 5 oz. Venetian red
1 oz. Prussian blue

TO FIND HOW MUCH PAINT

Measure the total distance around the house with a tape line, carrying it into all the corners and angles; multiply that distance by the height from the sill to the eaves. Multiply the width of the gables by half their perpendicular height. To get the area of porch floors and porch ceilings, multiply the length by the width. To get the area of porch columns, multiply the girth by the height. Figure railings and spindle work as if they were boarded up solid and had to be painted both sides. To get the area of the overhanging eaves and cornices, multiply the total running length by the width. All measurements must be in feet. No allowance is made for doors and windows, since the casings and the sash must be painted and since some paint is required for the edges of the weather boards. When the several areas have been added, divide the number of square feet by 575 to find the number of gallons for the priming coat, or by 600 to find the number of gallons for each additional coat. These results will be approximately right for average conditions, but the covering capacity of paint depends a great deal on the nature of the surface, the smoothness of the white lead, the formula it is mixed by and the way it is brushed out.

Materials to 100 square feet, per coat (approximate): Pure white lead, 2 to 2¼ lbs.; linseed oil, ¾ pint; turpentine, ⅛ pint.

Complete specifications for all kinds of work, interior and exterior, including painting of metals, will be sent on request.

For convenience and for ready reference use the following tables:

A—FOR PAINTING NEW WORK, OUTSIDE

Ingredients	Priming coat	Second coat	Third coat
White Lead.....	100 lbs.	100 lbs.	100 lbs.
Raw Linseed Oil	6 gals.	3½ gals.	4 gals.
Turpentine	1 gal.	¼ gal.	1 pt.
Turpentine Drier	1½ pts.	1 pt.	1 pt.
Paint it makes.	10 gals.	6⅔ gals.	7 gals.
It will cover..	.5750 sq. ft.	4000 sq. ft.	4200 sq. ft.

B—FOR RE-PAINTING OUTSIDE

Ingredients	First coat	Second coat
White Lead.....	100 lbs.	100 lbs.
Raw Linseed Oil	4 gals.	4 gals.
Turpentine	1 gal.	1 pt.
Turpentine Drier.....	1 pt.	1 pt.
Paint it makes.....	8 gals.	7 gals.
It will cover.....	4800 sq. ft.	4200 sq. ft.

C—FOR ONE GALLON PAINT, NEW WORK, OUTSIDE

Ingredients	Priming coat	Second coat	Third coat
White Lead.....	10 lbs.	15 lbs.	14¼ lbs.
Raw Linseed Oil..	5 pts.	4 pts.	4½ pts.
Turpentine	4/5 pt.	3/10 pt.	⅛ pt.
Turpentine Drier.	⅛ pt.	3/20 pt.	⅛ pt.
It will cover.....	575 sq.ft.	600 sq.ft.	600 sq.ft.

D—FOR ONE GALLON PAINT, OLD WORK, OUTSIDE

Ingredients	First coat	Second coat
White Lead	12½ lbs.	14¼ lbs.
Raw Linseed Oil...	4 pts.	4½ pts.
Turpentine	1 pt.	⅛ pt.
Turpentine Drier...	⅛ pt.	⅛ pt.
It will cover.....	600 sq. ft.	600 sq. ft.

E—FOR PAINTING NEW WORK, INSIDE

Ingredients	Priming coat	Second coat
White Lead	100 lbs.	100 lbs.
Raw Linseed Oil...	6 gals.	1¼ gals.
Turpentine	1 gal.	1¼ gals.
Turpentine Drier...	1½ pints	1 pint
Paint it makes....	10 gals.	5½ gals.
It will cover.....	5750 sq. ft.	3300 sq. ft.

F—FOR FINISHING COATS, INSIDE

Ingredients	Flat finish	Gloss finish	Eggshell finish
White Lead.....	100 lbs.	100 lbs.	100 lbs.
Raw Linseed Oil.	1 pt.	3 gals.	3 pts.
Turpentine	1¾ gals.	2 pts.	2 gals.
Turpentine Drier.	½ pt.	1 pt.	½ pt.
Paint it makes...	4¾ gals.	6¼ gals.	5¼ gals.
It will cover.....	2850 sq.ft.	3600 sq.ft.	3000 sq.ft.

HELPFUL HINTS

Cracking and scaling result from undue hardness and rigidity in the paint film. Metal and wood expand or contract as temperature changes and the paint coat must either be elastic enough to stretch and shrink as the temperature changes, or else it has to break. Paint made only of pure white lead and pure linseed oil is so elastic that it will not crack.

Moderate chalking need cause no alarm. It is the natural wearing down of the paint, and it is this characteristic of lead and oil that provides a smooth, even surface for repainting. If chalking becomes excessive as a result of using too little oil or oil of a poor quality, repaint, using plenty of oil and little or no turpentine.

To prevent the sagging or running of paint, brush it out thoroughly and secure quick drying by adding more drier and more turpentine. Running is less likely to occur on a flat or dull than on a glossy surface.

Light spots often appear in work where lamp black is one of the color ingredients. Since spotting appears worst where the wood is most porous, a good preventive is to give the porous places a coat of linseed oil before applying the first coat of paint. Where spotting has occurred brush over the spots with linseed oil before repainting.

If there is blistering, due to sap in the wood or to damp foundations or to leaky gutters or to ochre priming or to having used fatty oil, first

find and remove the cause. Then scrape or burn off the blistered paint and prime anew with a thin coat of pure white lead mixed with half linseed oil, half turpentine.

To strain paint through cheese-cloth or a wire strainer before using, will be a safeguard against lumpy colors and consequent streakiness. Paint also spreads further if strained.

Paint for roofs should not be made heavy, as for regular housework, but very thin—a mere stain.

Touch up missed places before the paint has begun to set, otherwise the laps will show.

Moisture in wood is the greatest foe to paint. Wood in new buildings is almost always water-soaked. Let it dry before painting. Be equally careful when repainting. Wait for dry weather and examine the surface carefully for moisture before painting. Do not paint just after a frost.

Do not be tempted by any consideration to use a substitute for pure linseed oil. Plausible arguments are often urged, especially when linseed oil is high in price, why substitutes for linseed oil should be used. But do not be misled. You risk the loss of all your labor and the cost of all your materials by using any other oil.

Be sure to mix plenty of paint, both for body and trim. It is better to have some left than to run short, especially if you are using a tinted paint. The left-over is useful for painting roof valleys or gutters and various odd places. Often the body and trim colors can be thrown together for such work, bringing the mass to a neutral color by adding lamp black.

For priming yellow pine we recommend the following formula:

40 lbs. Dutch Boy red lead in oil.
60 lbs. Dutch Boy white lead.
1¾ gals. raw linseed oil.
1¾ gals. turpentine.
½ gal. turpentine japan drier.

The excess of turpentine and drier seems to harden the gum in the wood, while the red lead helps make a very hard-drying film upon which to lay the body and finishing coats.

National Lead Co.

The New Red Lead

BY this is meant red lead and linseed oil, both of highest purity, ground into a paste which stays soft just as white lead-in-oil does, and which carries the Dutch Boy trade-mark.

Put up in this paste form, in convenient cans and kegs, and free from the excessively rapid drying qualities of dry red lead, this new red lead is sure to be useful to the painter in many ways.

Wherever metal requires painting red lead-in-oil thinned with pure linseed oil makes the ideal paint, while the facts that it does not get hard in the pail and that it is easy to mix are great advantages.

Dutch Boy red lead-in-oil makes a most desirable primer for all kinds of lumber, particularly pitchy and sappy hard wood, such as yellow pine, cypress, spruce, etc. Unless a good, hard foundation is laid the resinous matter in the wood is likely to soften under the heat of the sun and work its way to the surface—a frequent cause of scaling and cracking of outer coats.

The ease with which Dutch Boy red lead-in-oil may be tinted makes it easy to obtain favorite dark colors with it. By mixing with it lamp black, chrome yellow, chrome green or prussian blue it is possible to get a wide variety of browns, reds and olives.

For example, an ounce or two of lampblack added to a hundred pounds of red lead gives it a light coffee color. Increasing the lampblack results in a succession of rich browns. Results from other coloring pigments are equally interesting. Where light tints are desired, the finishing coats should be tinted white lead.